

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended (33 U.S.C. 1251 et seq.; the "Act"),

Navajo Tribal Utility Authority
Chinle Sewage Treatment Lagoons
P.O. Box 170
Fort Defiance, Arizona 86504

is authorized to discharge treated wastewater from Navajo Tribal Utility Authority's wastewater treatment facility, located in Chinle, Apache County, Arizona, in the central portion of the Navajo Nation, from Discharge Outfall Number 001,

Latitude: 36° 01' 45 " N
Longitude: 109° 35' 09 " W

to receiving waters named Nazlini Wash, a tributary to Laguna Creek, a tributary to the San Juan River, in accordance with effluent limitations, monitoring requirements and in the attached 10 pages of EPA Region 9 "Standard Federal NPDES Permit Conditions," dated June 3, 2002.

This permit shall become effective on _____.

This permit and the authorization to discharge shall expire at midnight, _____.

Signed this _____ day of _____

For the Regional Administrator,

Alexis Strauss, Director
Water Division
EPA, Region 9

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Based upon the current design flow rate of 0.783 MGD, the permittee is authorized to discharge from Outfall Number 001 treated domestic wastewater.

1. During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittee shall not discharge to receiving waters, except from Discharge Outfall No. 001 as specified below.
2. The influent shall be sampled prior to it entering the waste stabilization ponds. The effluent shall be sampled after the final treatment, prior to discharge into Nazlini Wash, a tributary to Laguna Creek, a tributary to the San Juan River. NTUA may sample for BOD₅, TSS, NH₃-N, TDS, pH and temperature after treatment but prior to chlorination. *E. coli* and total residual chlorine shall be sampled after chlorination.
3. Such discharge shall be limited and monitored by the permittee as follows:

Effluent Parameter	Units	Monthly Average	Weekly Average	Daily Maximum	Monitoring Frequency	Sample Type
Flow ¹	MGD	--	--	0.783	Once/month	Recorder
BOD ₅ ²	mg/l	45	65	--	Once/month	Composite
	kg/day	132	191	--		
TSS ²	mg/l	90	135	--	Once/month	Composite
	kg/day	265	397	--		
<i>E. coli</i>	#/100 ml	126 ³	--	576 ⁴	Once/month	Discrete
TRC ⁵	µg/l	5	--	11.0	Once/week	Discrete
TDS ⁶	mg/l	--	--	--	Once/month	Discrete
NH ₃ -N ⁷	mg/l	--	--	--	Once/quarter	Discrete
Temperature ⁸	deg F	--	--	--	Once/quarter	Discrete
pH ⁹	std. units	between 6.5 to 9.0			Once/month	Discrete
Priority Pollutant Scan ¹⁰	µg/l	--	--	--	Once/Year	Composite

NOTES:

1. Monitoring and reporting are required. No limit is set at this time.
2. Both the influent and the effluent shall be monitored for BOD₅ and TSS by concentration. The arithmetic mean of effluent sampling values, by weight, collected over a monthly period shall not exceed 35 percent of the arithmetic mean of the values, by weight, for influent samples collected over the same time period. (i.e., must demonstrate 65% removal of BOD₅ and TSS)
3. Geometric mean of samples collected during the calendar month.

4. Single sample maximum.
5. “TRC” = Total Residual Chlorine. If chlorination is used, the permittee shall at all times operate the plant to achieve the lowest possible residual chlorine while still complying with permit limits for *E. coli*.

TRC shall also be measured once per month for both the effluent and in the receiving water immediately downstream of the discharge, and reported on the Discharge Monitoring Reports, along with an estimate of the natural flow of the stream.

6. Both the plant effluent (Outfall Number 001) and the intake water supply shall be sampled. The incremental increase is the difference between the two sample analyses. The effluent value, intake water supply value, and incremental increase value shall be reported.

During periods of discharge, salinity (or Total Dissolved Solids) shall be determined by the “calculation method” (sum of constituents) as described in the latest edition of “Techniques of Water Resources Investigations of the United States Geological Survey—Methods for Collection and Analysis of Water Samples for Dissolved Minerals and Gases.”

7. “NH₃-N” = total ammonia nitrogen which includes the ammonium ion (NH₄⁺) and free ammonia (NH₃). No limit is set at this time but permittee must monitor once per quarter. Should the results of the first four quarters of tests reveal levels below EPA's 1999 National Water Quality Criteria for ammonia in freshwater, the monitoring frequency will be decreased to once per year. See Section C (Permit Reopener) below.
8. Temperature and pH measurements shall be taken concurrently with measurements for ammonia, as ammonia toxicity is pH and temperature dependent.
9. Effluent pH units are based on the numeric standards for secondary human contact, consistent with the Navajo Nation Surface water quality standards—July 2004 (Table 206A.1, page 26.)
10. Priority pollutants: The permittee shall monitor for the full list of priority pollutants as listed in the Code of Federal Regulations (CFR) at 40 CFR Part 423, Appendix A. No limit is set at this time.

Should the results of the first test reveal levels below EPA’s National Water Quality Criteria for priority pollutants, monitoring will no longer be required of the permittee. See Part B below.

SECTION B. GENERAL DISCHARGE SPECIFICATIONS

All Waters of the Navajo Nation shall be free from pollutants in amounts or combinations that, for any duration:

1. Cause injury to, are toxic to, or otherwise adversely affect human health, public safety, or public welfare.

2. Cause injury to, are toxic to, or otherwise adversely affect the habitation, growth, or propagation of indigenous aquatic plant and animal communities or any member of these communities; of any desirable non-indigenous member of these communities; of waterfowl accessing the water body; or otherwise adversely affect the physical, chemical, or biological conditions on which these communities and their members depend.
3. Settle to form bottom deposits, including sediments, precipitates and organic materials, that cause injury to, are toxic to, or otherwise adversely affect the habitation, growth, or propagation of indigenous aquatic plant and animal communities or any member of these communities; of any desirable non-indigenous member of these communities; of waterfowl accessing the water body; or otherwise adversely affect the physical, chemical, or biological conditions on which these communities and their members depend.
4. Cause physical, chemical, or biological conditions that promote the habitation, growth or propagation of undesirable, non-indigenous species of plant or animal life in the water body.
5. Cause solids, oil, grease, foam, scum, or any other form of objectionable floating debris on the surface of the water body; may cause a film or iridescent appearance on the surface of the water body; or that may cause a deposit on a shoreline, on a bank, or on aquatic vegetation.
6. Cause objectionable odor in the area of the water body.
7. Cause objectionable taste, odor, color, or turbidity in the water body.
8. Cause objectionable taste in edible plant and animal life, including waterfowl, that reside in, on, or adjacent to the water body.

SECTION C. PERMIT REOPENER

Should any of the monitoring results indicate that the discharge causes, has the reasonable potential to cause, or contributes to excursions above water quality criteria, the permit may be reopened for the imposition of water quality based limits and/or whole effluent toxicity limits. Also, this permit may be modified, in accordance with the requirements set forth at 40 CFR Parts 122.44 and 124.14, to include appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any new EPA-approved Tribal water quality standards.

SECTION D. BIOSOLIDS REQUIREMENTS

1. The permittee shall submit a report 60 days prior to disposal of biosolids. The report shall include:
 - a. A map showing biosolids handling facilities (e.g. digesters, lagoons, drying beds, incinerators, location of land application and surface disposal sites).
 - b. The quantity of biosolids produced in dry metric tons.

- c. The treatment applied to biosolids including process parameters. For example, if the biosolids is digested, report the average temperature and retention time of the digester. If drying beds are used, report depth of application and drying time. If composting is used, report the temperature achieved and duration. Also report dewatering methods and percent biosolids of final reports.
 - d. Disposal methods (e.g., 50% to landfill, 40% land applied, 10% sold as commercial product). Report the names and locations of all facilities receiving waste.
 - e. If biosolids are to be land-applied, analyses shall be conducted and submitted for Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Molybdenum, Zinc, and Selenium, and for organic-N, ammonium-N, and nitrate-N. The analyses shall be performed using the methods in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846) and test results shall be expressed in milligram (mg) pollutant per kilogram (kg) biosolids on a 100% dry weight basis.
 - f. If biosolids are placed in a surface disposal site, analyses shall be submitted for Arsenic, Chromium, and Nickel. A groundwater monitoring plan shall be submitted or a certification from a groundwater scientist that there is no potential for groundwater contamination.
- 2. The permittee shall comply with all standards for biosolids use and disposal established under Section 405(d) of the Clean Water Act, including existing standards under 40 CFR Parts 257, 258 and 503.
 - 3. Reports for biosolids monitoring shall be submitted to:

Regional Biosolids Coordinator
US EPA (WTR-7)
75 Hawthorne Street
San Francisco, CA 94105-3901

SECTION E. MONITORING AND REPORTING

1. Reporting of Monitoring Results

- a. The results of all monitoring required by this permit shall be submitted in such a format as to allow direct comparison with effluent limitations and permit requirements. Monitoring results shall be reported on monthly Discharge Monitoring Report (DMR) forms (EPA No. 3320-1) supplied by the Regional Administrator, to the extent that the results reported may be entered on the forms. Monthly DMR forms shall be submitted quarterly on the 28th day of the month following the previous quarterly reporting period; for example, the three monthly DMR forms for the reporting period January through March shall be submitted by April 28th. Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Regional Administrator of EPA and the Navajo Nation EPA

at the following addresses:

U. S. Environmental Protection Agency, Region 9
DMR/NPDES, Mailcode: WTR-7
75 Hawthorne Street
San Francisco, CA 94105

Navajo Nation EPA
NPDES Program
P.O. Box 339
Window Rock, AZ 86515

- b. For effluent analyses, the permittee shall utilize an analytical method with a published Method Detection Limit (MDL; as defined in Section F of this permit) that is lower than the effluent limitations (or lower than applicable numeric water quality criteria). If all published MDLs are higher than the effluent limitations or water quality criteria, then the permittee shall utilize the analytical method with the lowest published MDL. The permittee shall ensure that the laboratory utilizes a standard calibration where the lowest standard point is equal to or less than the minimum level (ML), as defined in Section F. of this permit.
- c. For samples collected during the monthly reporting period, report on the DMR form:
 - (1) The maximum value, if the maximum value is greater than the ML; or NODI (Q) ¹, if the maximum value is greater than or equal to the laboratory's MDL, but less than the ML; or NODI (B) ¹, if the maximum value is less than the laboratory's MDL; and
 - (2) The average value of all analytical results where 0 (zero) is substituted for NODI (B) and the laboratory's MDL is substituted for NODI (Q), if more than one sample is collected during the monthly reporting period.
- d. As an attachment to each DMR form submitted during this permit term, the permittee shall report for all parameters with monitoring requirements specified under Section XX of this permit: the analytical method number or title, preparation and analytical procedure utilized by the laboratory, and published MDL or ML; the laboratory's MDL, the standard deviation (S) from the laboratory's MDL study, and the number of replicate analyses (n) used to compute the laboratory's MDL; and the ML.

2. Monitoring and Records

In addition to the information requirements specified under 40 CFR 122.41(j)(3), records of monitoring information shall include: Laboratory(ies) which performed the analyses and any comments, case narrative or summary of results produced by the laboratory. These should identify and discuss QA/QC analyses performed concurrently during sample analyses and whether project and 40 CFR Part 136 requirements were met. The summary of results must include information on initial and continuing calibration, surrogate analyses, blanks,

¹ *NODI(Q)* means "No discharge/No data" (not quantifiable); *NODI(B)* means "No discharge/No data" (not detected).

duplicates, laboratory control samples, matrix spike and matrix spike duplicate results, sample receipt condition, holding times, and preservation.

3. Twenty Four-Hour Reporting of Noncompliance

The permittee shall report any compliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances to the following persons or their offices:

CWA Compliance Office Manager
U.S. EPA Region 9
(415) 972-3505

If the permittee is unsuccessful in contacting the person above, the permittee shall report by 9 a.m. on the first business day following the noncompliance. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including dates and times, and, if the noncompliance has not been corrected, the time it is expected to continue; and steps or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

SECTION F. DEFINITIONS

The following definitions shall apply unless otherwise specified in this permit:

1. “Composite sample” means, for flow rate measurements, the arithmetic mean of no fewer than 8 individual measurements taken at equal intervals for eight (8) hours or for the duration of discharge, whichever is shorter. A composite sample means, for other than flow rate measurement, a combination of eight (8) individual portions obtained at equal time intervals for eight (8) hours or for the duration of the discharge, whichever is shorter. The volume of each individual portion shall be directly proportional to the discharge flow rate at the time of sampling. The sampling period shall coincide with the period of maximum discharge flow.
2. “Discrete sample” means any individual sample collected in less than 15 minutes.
3. “Daily discharge” means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar for purposes of sampling. For pollutants with limitations expressed in terms of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the sampling day. “Daily discharge” determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the “daily discharge” determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that sampling day.
4. “Daily maximum” discharge limitation means the highest allowable “daily discharge” during

the calendar month.

5. “Daily average” discharge limitation means the highest allowable average of “daily discharges” over a calendar month, calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month.
6. “EPA” means the United States Environmental Protection Agency.
7. “Grab” sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
8. “Instantaneous” measurement, for monitoring requirements, is defined as a single reading, observation, or measurement. “Monthly average” (or 30-day average) is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
9. “Method Detection Limit (MDL)” is the minimum concentration of an analyte that can be detected with 99% confidence that the analyte concentration is greater than zero, as defined by the specific laboratory method listed in 40 CFR Part 136. The procedure for determination of a laboratory MDL is in 40 CFR Part 136, Appendix B.
10. “Minimum Level (ML)” is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all of the method-specified sample weights, volumes, and processing steps have been followed (as defined in EPA’s draft National Guidance for the Permitting, Monitoring, and Enforcement of Water Quality-Based Effluent Limitations Set Below Analytical Detection/Quantitative Levels, March 22, 1994). Published method-specific MLs are contained in 40 CFR Part 136, Appendix A, and must be utilized if available. If a published method-specific ML is not available, then an interim ML shall be calculated. The interim ML is equal to 3.18 times the published method-specific MDL rounded to the nearest multiple of 1, 2, 5, 10, 20, 50, etc. (When neither an ML nor an MDL are available under 40 CFR Part 136, an interim ML should be calculated by multiplying the best estimate of detection by a factor of 3.18; when a range of detection is given, the lower end value of the range of detection should be used to calculate the ML.) At this point in the calculation, a different procedure is used for metals, than for non-metals:
 - a. For metals, due to laboratory calibration practices, calculated MLs may be rounded to the nearest whole number.
 - b. For non-metals, because analytical instruments are generally calibrated using the ML as the lowest calibration standard, the calculated ML is then rounded to the nearest multiple of $(1, 2, \text{ or } 5) \times 10^n$, where n is zero or an integer. (For example, if an MDL is $2.5 \mu\text{g/l}$, then the calculated ML is: $2.5 \mu\text{g/l} \times 3.18 = 7.95 \mu\text{g/l}$. The multiple of $(1, 2, \text{ or } 5) \times 10^n$ nearest to 7.95 is $1 \times 10^1 = 10 \mu\text{g/l}$, so the calculated ML, rounded to the nearest whole number, is $10 \mu\text{g/l}$.)

11. “Monthly average” concentration limitation means the arithmetic mean of consecutive measurements made during a calendar month. The “monthly average” concentration for fecal or total coliform bacteria means the geometric mean of measurements made during a month. The geometric mean is the n th root of the product of n numbers.
12. “Monthly average” mass limitation means the total discharge by mass during a calendar month, divided by the number of days in the period that the facility was discharging. Where less than daily sampling is required by this permit, the monthly average value shall be determined by the summation of all the measured discharges by mass divided by the number of days during the month when the measurements were made.
13. “Regional Administrator” means EPA Region 9’s Regional Administrator.
14. “Weekly average” (or 7-day average) is the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains the Saturday.

